

#### **D vice for cleaning of windows**

The present invention relates to an appliance for drying window surfaces, which appliance is comprised of a frame part and a wiper part attached to it.

While washing windows in buildings, flats and other rooms or corresponding in  
5 them various types of window squeegees or rubber wipers to dry surfaces of  
windows are used. A window squeegee held in hand or a corresponding squeegee  
equipped with a suction fan are usually used for drying. There are often stripes left  
on the sides or on one side of a squeegee on windows while using present  
squeegees. There may easily become stripes between the sides if the worker presses  
10 the squeegee too light or too strong, the rubber lip bends partly too much and there  
will appear folds, wrinkles etc. through which water may pass on a window that has  
already been dried. Furthermore, the beginning of drying and the process of drying  
next to the edge of a window or a seal is inaccurate, because the wiper part made of  
rubber etc. of a squeegee is placed against the seal while wiping. The wiper part is  
15 made of rubber and very soft and it is not possible to dry the seal edge exactly.  
Almost in all cases it is necessary to finish the work with clean cloth, for example,  
with a towel, which takes more time and taxes more strength. It is extremely  
difficult to dry especially windows that are placed very high with a traditional  
window squeegee with a handle. Nowadays curved shapes in windows more than  
20 earlier hinder the exact drying of a window. It is almost impossible to draw a  
window squeegee exactly next to a seal/frame of a window and the straight shape of  
the present squeegees allow the water to run from sides also on a window that was  
already dried. A squeegee with a suction fan makes this easier but not enough,  
though. Furthermore, squeegees with a suction fan are expensive and difficult to  
25 use.

Earlier mentioned disadvantages are connected also to drying other smooth  
surfaces, for example, glass, metal etc. with squeegees or corresponding.

The purpose of the invention is to provide an appliance for drying window surfaces,  
with use of which disadvantages connected to present appliances are eliminated.  
30 Especially, the purpose of the invention is to provide an appliance, with use of  
which the result of drying is better than earlier quickly and efficiently.  
Furthermore, the purpose of the invention is to provide an appliance, with use of  
which water may not pass back to the surface that has already been dried.

The object of the invention is accomplished by an appliance, the characteristics of which are presented in the claims.

5 The appliance in accordance with the invention includes a guide on the edge of the frame part and furthermore the edge of the guide and the edge of the wiper part are sideways at the same point. It is possible for technical reasons in manufacture that the edges are not exactly against each other, but there may be a small difference in practice, which, however, does not have relevant influence on functioning of the appliance. The guide on the edges of the squeegee in accordance with the invention guides the squeegee while beginning the wiping and while wiping along the seal of a window. It is easy to place the squeegee against the edge and there will be no dirty water stripes between the seal and the window, because the edge of the guide and the edge of the wiper part are placed at the same point. The guide of the squeegee is firm. The guide also gives a support while pressing it against the window, and the rubber lip does not wind too much and cause stripe leaks, but the rubber bends optimally in regard to drying. The appliance in accordance with the invention eliminates earlier presented disadvantages, is easy to use and economical to manufacture.

20 In an advantageous application of the invention there is a recess placed at the point of the wiper part in the front edge of the frame part. In this case the rubber etc. wiper part bends curved enough from edges to the middle while drawing the squeegee and pressing it against the surface such as a window glass, such that the water on the sides and from the sides is guided to the middle of the squeegee and does not run on the window that has already been dried from the sides of the squeegee. When the squeegee is in its starting position, that is before a draw, the rubber etc. wiping part is in straight line inside, for example, a curved frame making it possible to start from the upper part of a window, for example, evenly and straight. While water is guided controlled to the middle of the squeegee a window may be cleaned either from top to bottom or from bottom to top or most effectively moving up and down drying all the time such that extra hand moves are not needed. 30 While wiping upwards water may be drained to a reservoir. Draws sideways are carried out alike.

In an advantageous additional application of the invention a recess has been placed in the front side of the attaching point of the wiper part. Such the front edge of the wiper part may bend at the point of the recess to the recess.

In the next advantageous additional application of the invention the front edge of the wiper part is thinner than the attaching part and/or the edge parts of the wiper part. This may be carried out by manufacturing the point in the front edge of thinner material or by cutting off a piece at that point. In this case the front edge of the wiper bends more than the edge parts while pressing against the glass and the water is guided to the middle of the squeegee.

In the next advantageous additional application of the invention edge parts, reaching downwards in cross-sectional direction, made to the sides of the front edge of the frame part function as guides. Furthermore, the recess of the front edge reaches from the edge part forming the guide of one side to the edge part of the other side. In this case the recess functions effectively and the water does not run out.

In the next advantageous additional application of the invention the guide and the wiper part are made of same material. In that case they function effectively in the construction and they may be strengthened on the edges with material suitable for this purpose. In some other application the frame, the guide and the wiper part are of same material or at least of solid material, properties of which are different in various places.

There may be one or more guides in the middle of the squeegee besides the guides on the edges in some applications. These additional guides strengthen the support during working.

Next, the invention will be explained in more detail with reference to the accompanying drawings, in which,

Figure 1 illustrates a window squeegee in accordance with the invention viewed diagonally from above,

Figure 2 illustrates a window squeegee in accordance with the figure 1 in use,

Figure 3 illustrates a cross-section A-A of the figure 1,

Figure 4 illustrates a guide of the window squeegee in accordance with the figure 1 in larger scale, and

Figure 5 illustrates a guide of another window squeegee in accordance with invention in larger scale.

The appliance in accordance with the figures 1-3 is a window squeegee, for example, held in hand in traditional way, which frame has been curved such, that it is ergonomically very usable.

5 The appliance in accordance with the figures 1-5, that is the window squeegee is comprised of a frame part 1, a wiper part 2 attached to it and a guide 3 placed in the edge of the frame part. There is a handle 6 attached to the frame part or it includes that, to hold the squeegee while working. The edge 4 of the guide 3 and the wiper part 2 are sideways mainly at the same point. The wiper part 2 is a long product, usually of certain width, usually made of rubber or some other flexible material, 10 which has been attached in one edge to the front part of the frame part. There is a recess 5 along the edge in the front edge of the frame part 1 at the point of the wiper part 2, which recess is placed in front of the attaching point of the wiper part 2. The recess reaches from the edge part forming the guide of one side to the edge part of the other side. The recess is at its height on the front edge of the frame part and gets 15 smaller evenly inwards.

In accordance with the figure 4 the edge parts, reaching downwards in cross-sectional direction, made on the sides of the front edge of the frame part function as guides 3. The guide is in this application a slightly curved edge of the frame part reaching tightly to the surface of the window or near it and in the end of it there is 20 the stiff edge projection of the guide. The edge part 3 in accordance with the figure 4 is narrowing towards the peak. In the application in accordance with the figure 5 these edge parts may continue a short distance inside forming a clawlike projection. The earlier mentioned recess reaches in both cases from this projection towards the middle part and there is a curved or inclined surface between the projection and the 25 recess. The guide is, while the most advantageous, a part integrated to the frame or a thin but stiff or stiffy edge part shaped to it. The edges of the wiper part 2 have been attached to these guides.

Figure 1 illustrates a window squeegee in state of rest and the drying of a window etc. has not yet been started. The wiper part is in state of rest, while the most 30 advantageous, in straight line from edge to edge. Figure 2 illustrates a shape of a window squeegee while in use and pressed against a window, that is, while a window is dried and the wiper drawn along the window. The edge part functions as a strong guide and "water wall" while drawing the squeegee against the window. In this case, while the most advantageous, the rubber wiper part 2 has been curved 35 against the recess in the front edge of the frame, and water runs from the edges to the middle. The guide hinders the water to run over the edges, which guide is

pressed tightly against the window due to the stiff edge part. The guides function also as a support while the squeegee is pressed against the window and directed to the right position.

5 The wiper part 2 turns correspondingly to a curve downwards while wiping from bottom to top and the water may be guided to a separate reservoir.

The wiper part may be removable attached to the frame part, while it may be taken off, in some applications, when the edge has worn out and turned the other way round and such it may be reused.

10 The appliance in accordance with the invention may, naturally, be used also while drying other surfaces than window or glass surfaces.

The invention is not limited to the presented advantageous application but it can vary within the frames of the idea of the invention formed in the claims.